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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,275	10/09/2001	Andreas Pein	JAA208	5792
27845	7590	03/11/2004	EXAMINER	
HORST KASPER 13 FOREST DRIVE WARREN, NJ 07059			BUI, THACH H	
			ART UNIT	PAPER NUMBER
			3752	

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/973,275

Applicant(s)

PEIN, ANDREAS

Examiner

Thach H Bui

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-26 is/are allowed.
- 6) ☒ Claim(s) 1-14 and 20 is/are rejected.
- 7) ☒ Claim(s) 15-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed February 06, 2004 has been received and entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-14, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaga et al. (U.S. Patent No. 5,609,781).

Kaga et al. teach a device comprising a pressure flow generator (see Fig. 38-42), an automatic control unit (20), a supply capillary connected to a high frequency current supply device e.g. gas (see Fig. 38-42) and a separating nozzle having a circular cross-section (2). The nozzle is disposed fixedly positioned and coaxial with the supply capillary (see Fig. 38-42); further, the nozzle includes at least one twisted groove, wherein the number of twisted grooves and the diameter and the length of the nozzle channel are placed in such a ratio to each other that the separating jet subjected to pressure is rotated (see Fig. 10B, 10C, 11A and 11B). Kaga et al. have all the features of the invention but Kaga et al. failed to teach a water jet device and the slope of the spiral flutes is dimensioned larger than the diameter of the nozzle channel and wherein the spiral flutes exhibit a slope angle of from about 30 to 45 degrees. It would have been obvious to one having ordinary skills in the art at the time the invention was made

to substitute gas jet for water jet for dispensing. Furthermore, it would have been obvious to one skilled artisan in the art to have the slope of the spiral flutes is dimensioned larger than the diameter of the nozzle channel and wherein the spiral flutes exhibit a slope angle of from about 30 to 45 degrees to achieve a better flow and the jet is subjected to a rotating pressure.

Kaga et al. have all the features of the invention but Kaga et al. do not mention specifically the hollow cylinder of the nozzle has a length of an inner cylinder which is from about 1 to 5 times the diameter of the inner cylinder, the width of the spiral grooves in 0.08-0.2 times the diameter of the inner cylinder of the nozzle and the depth of the spiral grooves is 0.2-0.4 times the width of the spiral grooves. It would have been obvious matter of design choice to have the hollow cylinder of the nozzle has a length of an inner cylinder which is from about 1 to 5 times the diameter of the inner cylinder, the width of the spiral grooves in 0.08-0.2 times the diameter of the inner cylinder of the nozzle and the depth of the spiral grooves is 0.2-0.4 times the width of the spiral grooves to have the appropriate ratio between the length of the nozzle and the grooves so that when the jet exiting the nozzle, it swirled.

Allowable Subject Matter

3. Claims 15-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. Claims 21-26 are allowed.

Response to Arguments

5. Applicant's arguments filed February 06, 2004 have been fully considered but they are not persuasive. The claims have been addressed in the above paragraphs. The Examiner does not recognize "the gas mixture performs any cutting operation" cited in the claims. The claimed invention teaches an apparatus having a nozzle with grooves so that when the gas exiting the nozzle, it rotates. Kaga et al. teaches an apparatus that performs the same function.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thach H Bui whose telephone number is 703-305-0063. The examiner can normally be reached on Monday-Friday, 7:30-4 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on 703-308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T.B. 02/24/04


MICHAEL MAR
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700